

What is claimed is:

1. A control element comprising:

a rotary knob;

a rotating axle; and

a detent device that includes a gear pump, which is integrated into a cross-section of a channel, by which a magnetorheological fluid is pumped by the gear pump through the channel when the rotary knob is rotated, the rotary knob being connected to the detent device by the rotating axle,

wherein a first coil is mounted on the channel, the first coil being utilized to change the viscosity of the magnetorheological fluid when different detent curves are to be defined and established.

2. A control element comprising:

a rotary knob;

a rotating axle; and

a sensing device for detecting a direction of rotation, the sensing device includes a gear pump that is integrated into a cross-section of a channel, by which a magnetorheological fluid is pumped by the gear pump through the channel when the rotary knob is rotated, the rotary knob being connected to the detent device by the rotating axle,

wherein a coil is mounted on the channel, the coil determining a flow direction of the magnetorheological fluid and thereby a direction of rotation of the rotary knob can be determined on the basis of the fluid flowing past the coil.

3. A control element comprising:

a rotary knob;

a rotating axle; and

a sensing device that includes a gear pump being integrated into a cross-section of a channel, the channel containing a magnetorheological fluid that is pumped through the channel by the gear pump on the basis of a rotation of the rotary knob, which is connected to the sensing device by the rotating axle, the

sensing device further including a first coil and a second coil, each being provided on the channel, the first coil being used to alter a viscosity of the magnetorheological fluid, the second coil being used to determine a flow direction of the magnetorheological fluid and thereby a direction of rotation of the rotary knob can be determined on the basis of the magnetorheological fluid flowing past the coil.

4. The control element according to claim 1, wherein the gear pump is an external gear pump.

5. The control element according to claim 1, wherein the gears each have a diameter of approximately 4 mm.

6. The control element according to claim 1, wherein a pulsed current is supplied to the first coil by which a magnetic field is produced that acts on the fluid.

7. The control element according to claim 1, wherein any desired detent curve can be created by software which determines the pulsing of the changing magnetic field at the first coil.

8. The control element according to claim 1, wherein at the end of a rotational motion, the torque can be selected to be high in order to indicate an end position of the rotary knob.

9. The control element according to claim 2, wherein the gear pump is an external gear pump.

10. The control element according to claim 2, wherein the gears each have a diameter of approximately 4 mm.

11. The control element according to claim 2, wherein a pulsed current is supplied to the coil by which a magnetic field is produced that acts on the fluid.

12. The control element according to claim 3, wherein the gear pump is an external gear pump.

13. The control element according to claim 3, wherein the gears each have a diameter of approximately 4 mm.

14. The control element according to claim 3, wherein a pulsed current is supplied to the first coil and the second coil by which a magnetic field is produced that acts on the fluid.

15. The control element according to claim 3, wherein any desired detent curve can be created by software which determines the pulsing of the changing magnetic field at the first coil.

16. The control element according to claim 3, wherein at the end of a rotational motion, the torque can be selected to be high in order to indicate an end position of the rotary knob.